

## Patent Abstracts of Japan

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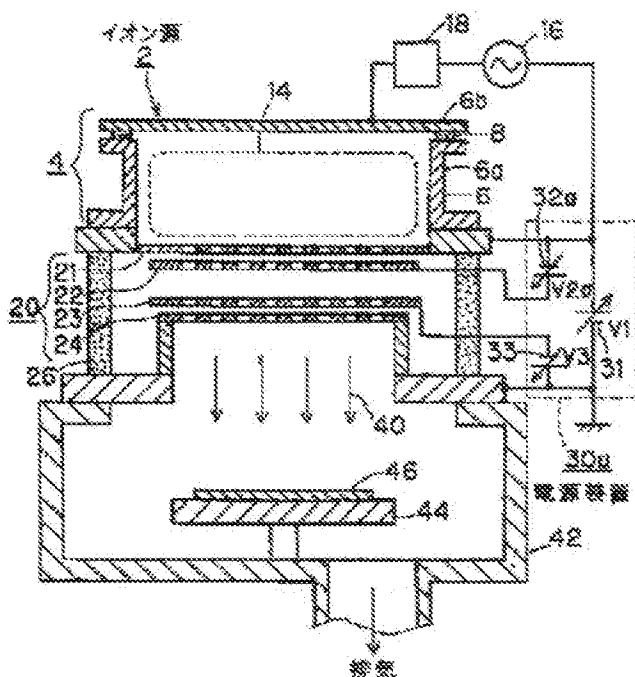
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TITLE : METHOD AND DEVICE FOR  
GENERATION OF ION BEAM



**ABSTRACT :** PURPOSE: To establish a method and device for generating an ion beam, with which the current density in the ion beam drawn out of an ion source can be made smaller than the lower limit according to the conventional arrangement.

CONSTITUTION: An ion beam generating device is equipped with an ion source 2 emitting an ion beam 40 and a power supply device 30a which impresses a voltage for ion beam extraction. The ion source 2 has a plasma source part 4 to produce plasma 14 and an extracting electrode system 20 which extracts the ion beam 40 from the source part, while the power supply device 30a has the first power supply 31 to impress a positive high voltage with reference to the grounding potential on the first electrode 21 constituting the extracting electrode system 20, the second power supply 32a with variable output voltage to impress a positive voltage with reference to the potential of the first electrode 21 on the second electrode 22, and the third power supply 33 which impresses a negative voltage with reference to the grounding potential on the third electrode 23. This allows suppressing extraction of ions from the plasma through the electrode situated nearest the plasma.

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